

Introduction

Utilities and Public Services

The Utilities and Public Services Element addresses the City's desire to have safe, reliable and cost effective utility and public services, and to ensure utility projects are as aesthetically compatible with adjacent land uses as possible. The Utilities and Public Services Element also provides guidance for focusing future utility facilities where they are or will be most needed and for targeting future development in areas where utilities and services are available. As required by the Growth Management Act, this element includes the general location and capacity of existing and proposed utilities and public services (see the Utilities Element Background Report, Volume 2, for some tables and figures referred to in this element). Funding requirements for public services are addressed in the Capital Facilities Element.

In addition to the City's Comprehensive Plan, water and sewer system plan updates are approved by the adjacent purveyors, the UTRC (Utilities Technical Review Committee), the State Department of Health and the State Department of Ecology. These plans guide the utilities in their day to day operations and functions. The following public services and private utilities are addressed in this Element:

Public Services

- Water
- Sewer
- Storm drainage
- Police
- Fire

Private Utilities

- Electricity (Puget Sound Energy)
- Natural gas (Puget Sound Energy)
- Telecommunications
- Cable Television (ATT)
- Solid Waste/Recycling (Rabanco and Waste Management Rainier)

Planning for private utilities is the primary responsibility of the utility providers, and the City should rely on the plans prepared by those providers. The City of Issaquah is committed to maximum coordination of public and private utilities in regard to facility planning, siting, and construction and maintenance projects.

2. Vision and Values

The City of Issaquah is committed to providing high quality and efficient public services and utilities to its residents.

2.1 Vision

The City's public services and utilities vision is:

- To ensure its utilities are maintained and improved while minimizing disruptions to affected areas when utility improvements and new construction of utilities are required;
- To coordinate utilities and public facilities and ensure that needed utility services will be available when new development occurs;
- To encourage utility conservation efforts that minimize demand for natural resources; and
- To provide efficient and cost-effective public services.

2.2 Values

The community's utility and public service vision, along with the values listed below, identify the City's commitment to providing all residents with the efficient and equitable services and facilities. The following public services and utilities values were identified by citizens:

- **Integrated Utility Infrastructure to Support Residents and Businesses.** Reliable and cost efficient utility services that meet the high standard currently provided to residents and businesses.

- **Future growth may only occur when utilities and public services become available.**
- **Maintaining and improving public services required by the community.**
- **Equitable Rate Structures should be provided to all customers.**
- **Fiscal Responsibility.** All City provided public services and utilities shall be operated to maximize cost effectiveness.
- **Utility and Public Service Provision.** “Pay as you go” methodology is appropriate when creating rate structures.

3. Growth Management Act: Utilities & Public Services Element Requirements

The Growth Management Act's (GMA) Public Facilities and Services goal is to "ensure that those public facilities and services necessary to support development shall be adequate ." (RCW 36.70A.020(12)).

The Growth Management Act's (GMA) Public Facilities and Services goal is to "ensure that those public facilities and services necessary to support development shall be adequate to serve the development when development is available for occupancy and use without decreasing current service levels below locally established minimum standards." (Revised Code of Washington (RCW) 36.70A.020(12)). The GMA also requires that comprehensive plans contain a utilities element, "consisting of the general location, proposed location, and capacity of all existing and proposed utilities, including, but not limited to electrical lines, telecommunication lines, and natural gas lines." (RCW 36.70A.070(4)). Finally, the GMA requires that the City establish a process for the identification and siting of essential public facilities (RCW 36.70A.200).

4. Water Utility

The City is served by its municipally owned and operated water service utility.

4.1 Existing Conditions.

In 1967, the Risdon Well No. 1 was drilled and became the primary source of potable water, until Risdon Well No. 2 came on-line in 1969. From 1970 to 1989 the City has relied solely on groundwater produced by these wells for its potable water supply. In 1989 and 1990 the City entered into an agreement with the City of Bellevue to provide service up to a maximum of 600 multifamily units and 700 "equivalent residential units." This service is intended to provide for the entire demand of the Montreux and Lakemont Triangle developments. The primary reasons for connection to the Bellevue water system for these areas were related to cost and efficiency. Existing Bellevue water mains are closer and allowed for gravity supply, whereas water mains from Issaquah would need to be extended a greater distance and require pumping. Groundwater continues to provide the primary potable water supply for the City. Table U-1 in the Utilities Element Background Report Volume 2 provides an abbreviated system history. The City negotiated a wholesale water agreement with the City of Bellevue in 1999. In 2002 a 24 inch waterline was constructed along Newport Way to interconnect the Issaquah water system with Bellevue water system, which obtains its water from Seattle Public Utilities. The purpose of constructing that pipeline was to supply water to new growth in Issaquah Highlands, Talus and the Sammamish Plateau (via the Sammamish Plateau Water and Sewer District). The new water supply was needed because the City's permitted water rights for its groundwater wells are not sufficient to meet projected future growth in the City water utility.

In 2004 the City executed an agreement with Cascade Water Alliance for wholesale water purchase from Seattle Public Utilities (replacing the Bellevue contract) and also purchased the 24 inch regional pipeline to enable them to provide regional water to Issaquah and the Sammamish Plateau Water and Sewer Dis-

trict. The Sammamish Plateau Water and Sewer District has constructed a connection to the pipeline to allow them to purchase regional water.

The City currently has an "immediate water service area" of approximately 10 square miles, which generally corresponds to the City limits. The water system serves approximately 7,000 residential and commercial accounts, exclusive of North Issaquah. However, not all areas of the City are currently served. Figure 7 (Volume 1) shows major components of the existing water system. In addition to the immediate water service area, the City has adjusted the "Critical Water Supply Service Area" (CWSSA) in cooperation with King County, to include only that area within the Urban Growth Boundary.

The Critical Water Supply Service Area was initially established during the regional water utility planning effort in 1989, which culminated in the development of the East King Co. Regional Water Supply Plan. The City's water service area was amended in the 1996 update to match the existing city limits and the PAA to the east, south, and west. In addition to the Montreux (also known as the Glacier Ridge operating area), and Lakemont Triangle areas, the City of Bellevue also provides water service to the Greenwood Point area, while the Sammamish Plateau Water and Sewer District (SPWSD) provides service on the Plateau and within the City's North Issaquah Area. East Cougar Mountain and a portion of Tibbetts Creek Valley areas are not currently served by a special purpose district, or the City.

4.2 Water Supply.

Currently, the City gets most of its potable water from groundwater. Groundwater rights allow the City to withdraw maximum 2,800 ac-ft per year with approximately 5.6 million gallons per day during peak day. A summary of these water rights is shown on Table U-2 in the Utilities Element Background Report Volume 2. Currently, the City has the capacity to pump a maximum of approximately 4.4 million gallons per day. The primary source of this groundwater is the Lower Issaquah Creek Basin Aquifer System, which lies below the valley floor. It is of vital importance for the City to protect the quality and quantity of water that enters the aquifer. Water quality is routinely monitored at the wellheads, and the aquifer currently produces exceptionally pure water. Threats to the aquifer include inappropriate development, storm water runoff and potential hazardous spills along transportation corridors. This aquifer also supplies a substantial amount of water to the Sammamish Plateau Water and Sewer District. Coordination with the SPWSD and other adjacent agencies is an important part of aquifer protection since a significant portion of the recharge area lies outside the jurisdiction of the City (see Figure , Water System Map, Volume 1).

At the present time the City of Issaquah has two interties with the Sammamish Plateau Water and Sewer District (SPWSD) water system. The interties are located at 1st Avenue NE at NE Juniper Street and NW Sammamish Road at 221st Place SE. The intertie at 1st Avenue is manually operated and designed for emergency supply exchanges. The intertie at NW Sammamish Road is designed to supply water to the City from the District in the event of a pressure loss in the City's system due to fire flow demands. The NW Sammamish Road intertie can be operated from the City operations facility. In 2003, the City also gained a regional connection to Bellevue on a 24" waterline designed to serve, at a minimum, the urban villages of the Issaquah Highlands and Talus.

Currently the City's annual average daily demand is approximately 1.8 million gallons, or about 7,500 "equivalent residential units" (ERUs). An ERU equals the annual average daily water use per single family dwelling. Based on historical usage data in Issaquah, this equals 209 gallons per day. Figure U-9 in the Utilities Element Background Report (Vol. 2) shows the relationship of the average demand to the number of "equivalent residential units" and the capacities of the existing water rights. This figure indicates that the City has enough capacity to adequately provide service on the "average demand days" and the "maximum day demand", which is approximately 2.5 times greater than the average day demand. The City's new agreement with Cascade Water Alliance for the additional supply will be valuable since, during the summer of 2000, the North Fork of Issaquah Creek went dry giving indications that the water resources in the Lower Issaquah Basin were being stretched passed acceptable impacts. The City has requested additional water from Bellevue to support future demand and to offset adverse impact to the environment.

4.3 Future Conditions - In City.

Projected increases to population and commercial/ industrial land uses during the planning period within the City's service area and potential annexation areas will result in an increase in the demand for potable water. It is estimated that the City will need to provide water for approximately 16,600 "equivalent residential units" (ERUs) by the year 2010 and 17,700 by 2020.

The City will need to develop alternative ways to meet future demands, in the event that additional groundwater rights cannot be obtained. The City has an agreement with Bellevue to provide water supply from Seattle. The City also participates in the Cascade Water Alliance, a regional water cooperative. The new supply will be enough to provide for approximately 8000 ERU's. The transmission main from Bellevue to Issaquah for this new supply is being constructed as a developer extension. If additional supply is not acquired, from Seattle, other methods may include a combination of conservation, connections with adjacent purveyors, and wastewater reuse. In addition, as part of a wellhead protection program, the City should continue to investigate and develop a redundant water supply source, which can be used in case any of its wells should become unusable for any reason.

The City and its surrounding purveyors depend on developer extensions for expansion of their systems. For new construction, water systems are designed to insure that minimum flow requirements can be met principally through the adequate sizing of pipes and the looping of water mains.

In some of the older commercial portions of the existing system, minimum fire flows cannot be provided due to existing undersized water mains. In addition, fire flow storage deficiencies exist in the Mount Hood operating area.

Existing storage facilities have a volume of approximately 12.5 million gallons (MG) and an additional 2 MG fire storage is leased from Sammamish Plateau District. All facilities are covered, ground level reservoirs or standpipes; there are no elevated tanks in the system. Additional storage volume is required in the Mount Hood operating area to maintain adequate fire flow volume. Construction of the new Mt. Hood storage reservoir will eliminate this storage deficit.

To meet the needs of additional growth within the existing service area, improvements to storage facilities and mains, and regular maintenance of the utility will be required. The implementation of new fire flow requirements will influence the sizing of future facilities and the amount of the increased storage needs to upsize existing facilities. With the storage improvement there will also be a need for some transmission upgrades. In addition the City has some older mains, which need to be replaced due to their useful life ending and others due to high maintenance.

System improvements to the City's water utility service are summarized below by Hydraulic Operating Areas (see Figure U-2 in the Utilities Element Background Report Volume 2).

4.4 Hydraulic Operating Areas.

- A. Valley Operating Area:** The City has two interties with Sammamish Plateau Water and Sewer District and a lease agreement for shared emergency storage of an existing facility. These agreements provide for the required storage and transmission facilities to meet fire flow requirements north of I-90. However, an additional transmission main extending from south of I-90 to north of I-90 would increase the reliability of fire service north of the interstate by providing an additional loop in the system.
- B. Mount Hood Operating Area:** This area requires additional storage upgrades to meet fire flow requirements set by the City. A dual cell reservoir is to be constructed providing approximately 1.32 million gallons of new storage, thereby meeting fire flow requirements.. To utilize this storage, a transmission main has been constructed to the Wildwood Boulevard area from the Mountain Park pump station located on West Sunset Way and a new pump station has been built on 12th Avenue in Tibbetts Valley Park.

- C. **Wildwood Operating Area:** This area currently meets the standards and policy of the City regarding water service. The existing pump house was replaced in 2008 which will improve the operation of water services to this area.
- D. **Highwood Operating Area:** This area currently meets the standards and policy of the City regarding water service.
- E. **Forest Rim Operating Area:** The existing standpipe was damaged in the February 2001 earthquake and was replaced. The new facility will incorporate two new reservoirs to provide additional fire storage volume redundancy, and higher pressures.
- F. **Cougar Ridge Operating Area:** The existing twin standpipes are replaced in 2008 to improve the operation of water service to this area.
- G. **Lakemont Operating Area:** The Lakemont operating area, also known as the Lakemont Triangle, incorporated in the City in 2006. Lakemont is served by an intertie with the City of Bellevue's water system. The intertie does not contain a meter to monitor water usage. Individual apartment unit meter readings are totaled to provide overall operating area demands.
- H. **Montreaux Operating Area:** The Montreaux operating area is served via a 12-inch pipe from the City of Bellevue's 1150 Zone. A 6-inch meter records water usage for the operating area.
- I. **Issaquah Highland Operating Area:** The Issaquah Highlands development is served by a 742 twin reservoir and a 1232 reservoir connected to the regional water supply by Cascade Water Alliance via a 24" diameter supply line and booster pump stations.
- J. **Talus Operating Area:** The Talus development is served by a 616 reservoir and a 884 standpipe and two booster pump stations. Water can be supply from the regional water supply by Cascade Water Alliance or ground water wells from the valley operating area.

4.5 **Potential Future Operating Areas.** *(already within Issaquah City Limits)*

- A. **Bergsma:** This area does not have water service. Any development which occurs will require all elements of a water system. These improvements will require extension of the existing system, including but not limited to storage, pump stations, pressure reducing stations, and mains.
- B. **Greenwood Point:** This area is within the City of Issaquah's Sphere of Influence as defined in the 1979 agreement between Bellevue and Issaquah. Water service to this area is currently provided by the City of Bellevue. Annexed in 2006, this service area will likely be transferred to Issaquah at an unknown future date.
- C. **South Plateau/East Lake Sammamish Parkway:** This area is currently served by Sammamish Plateau Water and Sewer District and likely will be transferred to Issaquah at an unknown future date
- D. **Park Pointe:** This area currently does not have water service. This area will require all elements of a water system since none currently exist. Any development that occurs will be required to extend the existing system, including but not limited to storage, pump stations, pressure reducing stations, and mains. All extensions shall be in accordance with City policy and water utility criteria in effect at the time of permitting.

4.6 **Potential and Newly Annexed Areas.** The potential and new annexations will increase the demand on Issaquah's water system. These areas are shown on the Potential Annexation Areas map in the Land Use Element and include: East Cougar Mountain, Lake Sammamish State Park, and King County Island. Necessary system improvements already identified in one or more of these areas are summarized below. Additional improvements may be identified in any future annexation studies.

- A. **East Cougar Mountain/Tibbetts Creek Valley:** These areas currently do not have water service. Any development which occurs will require all elements of a water system since none currently exist. These improvements will require extension of the existing system, including but not limited to storage, pump stations, pressure reducing stations, and mains. All extensions shall be in accordance with City policy and water utility criteria in effect at the time of permitting.

5. Sewer Utility

The City is served by its municipally owned and operated sewer utility with a service area that corresponds primarily to the City limits, except for the North Issaquah subarea, which is served by the Sammamish Plateau Water and Sewer District.

5.1 Existing Conditions. (See Figure 9, Sewer System Map). The City's policy is to provide direct retail sewer services to all customers within the City limits. Within the City's service area there are several areas that remain unsewered due to physical difficulties associated with bringing in sewer lines (such as the need to construct pump stations in low-lying areas). Areas currently without sewer service are shown in Figure U-3 of the Utilities Element Background Report (Vol. 2).

5.2 City Facilities. The business district along Front Street and the surrounding residential areas located on the valley floor were first sewered in 1939. The sewage was treated by a small secondary treatment plant located at the confluence of the main stem and East Fork of Issaquah Creek (the current City shop site). The sewer service area was essentially static until 1967, and the formation of Metro. In 1969, Metro constructed the Issaquah Interceptor, and the City subsequently abandoned its secondary treatment plant. In 1982, Metro constructed the Issaquah Creek Interceptor to relieve the Issaquah Interceptor that was flowing near capacity during peak flow periods. At the same time, in accordance with an earlier agreement with Metro, a portion of the Issaquah Interceptor was incorporated into the City of Issaquah's sewer system.

The majority of Issaquah's sewer system was built by Local Improvement Districts (LIDs) during the period between 1969 and 1979. Since 1979, expansion of the system has included the following additions:

- West Downtown Trunk extension to the intersection of South Front Street and 2nd Avenue S.E.
- Several extensions in the 18th Street and I-90 South subbasins.
- Sewer trunk extension along N.W. Newport Way to the Lakemont Triangle.
- Montreux
- Issaquah Highlands (formerly Grand Ridge)
- Talus (formerly East Village)

Two industrial wastewater customers exist within the service area. Each has a waste strength that requires a separate King County waste discharge permit. These customers are:

- A milk and dairy foods processing facility on Front Street.
- A printed wiring board manufacturing facility on Mall Street.

Each plant's waste discharge is subject to an industrial waste surcharge. The enforcement and monitoring activities for these special permits is done by King County.

Sewer maintenance functions are performed by the City of Issaquah's Public Works Operations Department. Maintenance programs include high pressure cleaning of collection and truck lines. Certain sections of the sewer system typically associated with restaurants require grease removal on a quarterly basis, and the associated grease traps should be inspected at that time. Manhole maintenance consists of sealing leaking manholes, repairing damaged or eroded channels, and replacing perforated manhole lids with solid lids to prevent inflow. The lift station maintenance program consists of weekly inspections with either weekly or monthly wet well cleaning, depending on grease concentrations. Pumps and generators are inspected and serviced annually. Lift stations are connected to the City's telemetry system, which provides alarms and after-hours calls in the event of a lift station failure.

The City is not aware of any past wastewater overflow due to capacity constraints, indicating that the current system has adequate capacity to convey current flows. The condition of the sewer system in 2009 is generally good.

5.3 King County (METRO). As the regional sewerage authority, King County Department of Natural Resources, Division of Wastewater Treatment and Disposal (King County) provides transmission, treatment and disposal of Issaquah's sewage after it leaves the City system. Sewage from the City is currently discharged into two King County interceptors, the Issaquah and the Issaquah Creek Interceptors.

Sewage from the City's system flows by gravity to the northwest via the Issaquah Interceptor to the Sunset Pump Station. From the Sunset Pump Station, sewage is pumped through the Vasa Park Interceptor to the King County East Lake Washington Interceptor and then flows southward to Metro King County's Renton wastewater treatment plant. Treated effluent from the Renton plant is conveyed via the effluent transfer system for discharge into Elliot Bay.

King County is planning an additional interceptor to serve the Issaquah and Sammamish drainage basins. The new interceptor, called the Southeast Lake Sammamish Interceptor, will serve both the City of Issaquah and Sammamish Plateau Water and Sewer District.

5.4 Flow Components. Wastewater flow is based on population and estimated existing flow rates in the system, as measured by King County's Regional Infiltration/Inflow (I/I) Control Program at 13 locations in the City, to derive unit flow rates for equivalent residential units (ERU) and the I/I contribution. An ERU is the demand or loading from a type of land use that is equivalent to the load or demand estimated for a "typical" single family residence. Projected flows under future conditions are based on population projects and the ERU flow rates. Projected multifamily and commercial development flow rates are estimated in terms of fractions of an ERU. For example, multifamily developments are assumed to generate 0.65 ERU per unit because they typically have fewer persons per unit when compared to a single family resident; similarly, lawn watering demands are lower. In 2009, there were approximately 7,000 ERUs in the City. Under future conditions, total ERUs are projected to increase 14,300 by 2020. A significant amount of this growth will occur within the planned developments of Issaquah Highlands and Talus.

Total wastewater flow is generally estimated as the sum of several separate flow components. Typical wastewater flow components include sanitary sewage from residential and non-residential sources sanitary sewage and infiltration and inflow.

Residential sanitary sewage is closely related to the volume of water used within a household (with outdoor water use excluded). The City's winter water consumption records and census data were used to estimate the per capita residential sanitary sewage flow. Nonresidential wastewater generated by commercial businesses, industry, hospitals, public buildings, etc. is combined into a single category called nonresidential sewage. The nonresidential sewage component is typically computed on a flow-per-developed-acre or flow-per-building square footage basis.

5.5 Future Conditions. In the City, the 1990 total peak flow in million gallons per day (mgd) was estimated at 0.54 mgd. By 1995 the sewer peak flow increased to 0.67 mgd, and by 2001 it increased to 1.0 mgd. The projected 2020 flow is 2.0 mgd based on a 5-year design standard. Thus, the 2020 flow is double the existing flows within the City limits. This increase would come from expanding sewers to new areas and from redevelopment to higher densities within the City in accordance with the Land Use Element.

New development in the City is required to tie in to sanitary sewer lines. Areas of new development anticipated to be served in the future include Talus, Park Pointe and the Issaquah Highlands, as well as gradual infilling of existing areas. Older development in the city served by septic systems will continue to rely on septic systems until sewer service is extended. Once available, property owners will be required to demonstrate the functionality of their septic systems every three (3) years in lieu of hooking up to the City sewer. Areas with the greatest need for sewers (and replacement of septic systems) are: Sycamore Drive SE, Brookside Dr. SE, SW Forest Dr., 3rd Place NW/Cherry Place, and NE/3rd Ave. NE/NE Juniper

(North of I-90). To evaluate future conditions, the following trunk sewers in the City's sewer system were evaluated using a hydraulic model:

- East Downtown Trunk
- West Downtown Trunk
- Newport Way Trunk
- Northeast Trunk
- The King County interceptors

Under current (2009) conditions, it was determined that these lines have adequate capacity to convey current wastewater flows. The model was then extended to simulate conditions in the year 2020. Capacity provided by existing facilities would accommodate dry weather flows; however even during modest storm events additional capacities are needed at some locations. A number of capacity problems were identified in this analysis (see Table U-1). Review of the Infiltration / Inflow rates throughout the City system indicated four subbasins with extraneous flow rates that noticeably exceeded other areas of the City. A flow monitoring program would be appropriate to verify these indications. If so, then rehabilitation efforts should be focused in these subbasins first. The resulting effectiveness can then guide future efforts towards achieving conformity with the rest of King County.

Table U-1: Recommended System Improvements

<i>Component</i>	<i>Recommendation</i>
Sewer extensions	Construction of new sewers to currently unsewered neighborhoods, including Sycamore, Forest Drive, NW Cherry Place, and NE Juniper.
Sewer Main rehabilitation	Rehabilitation of mains and manholes that are damaged due to material degradation, experience high infiltration and inflow (I/I) problems.
Maintenance	Ongoing maintenance, including cleaning and flushing, root removal, rodent control, grease trap inspections, manhole inspection and repair, lift station maintenance, and video inspections of all mains.
Miscellaneous projects	Flow monitoring of several individual service areas to obtain better information on actual sewage flow rates and to isolate areas with high I/I problems.

Source: 2001 Sewer System Plan. Recommendations are subject to further analysis of flow monitoring data from the King County Regional Infiltration/Inflow (I/I) Control Program.

6. Surface Water Utility Drainage

The City's stormwater program currently consists of many separate activities, conducted by the Public Works Operations and Public Works Engineering Departments.

The City's stormwater program currently consists of many separate activities, conducted by the Public Works Operations and Public Works Engineering Departments including, maintenance of public stormwater systems, capital improvement projects for stormwater and flood control, and floodplain and stormwater management programs. These activities are in response to regulatory requirements, need for public services and safety, and the City's commitment to protect and improve the quality of its natural resources. Included are the flood control program to reduce flood impacts and associated flood damages along Issaquah and Tibbetts Creeks, flood management programs to control development in floodplains and mitigate impacts, flood warning and flood control, resource monitoring of streams and their corridors, and public involvement and education through the City's Resource Conservation Office.

6.1 Issaquah Creek Drainage Basin. The Issaquah Creek drainage basin covers about 61 square miles of King County (Figure 10). Several principal streams flow through Issaquah, including Issaquah Creek, East Fork Issaquah Creek, North Fork Issaquah Creek, and Tibbetts Creek, providing valuable fish and wildlife resources. These creeks flow from steep headwaters to Lake Sammamish at the northern edge of the basin. The larger streams are used by Puget Sound chinook salmon, which in 1999 were

listed as threatened under the Endangered Species Act. The Issaquah Hatchery, which opened in 1936, and releases several million Coho and Chinook salmon into Issaquah Creek each year to support regional fisheries. Between 10,000 and 30,000 fish return to the Hatchery each year. The Hatchery serves as an important public education facility due to its close proximity to the Seattle urban area and neighboring Issaquah schools.

Although Tibbetts Creek is not a tributary to Issaquah Creek, it shares a common floodplain. In recent years, flood impacts and damage have increased due to development that has encroached to the edges of the streams. Flooding affects many low-lying areas along Issaquah Creek and Tibbetts Creek, as demonstrated by the February 1996 flood, and has impacted residential and commercial properties..

6.2 Existing Conditions. (Flooding) Issaquah's location presents the City with a number of surface drainage concerns. Federal Emergency Management Agency (FEMA) maps show much of the City is located within the 100-year floodplain. However, flood impacts generally start to appear at the three to five year flood, causing road closures, shallow flooding, and some flooded houses and businesses. The 1996 and 2009 floods, which were both estimated to be 20-year flood events, caused substantial damage to many residential and commercial areas. Because the City is situated on a broad, fan shaped accumulation of stream sediments, there are few topographic barriers to impede flooding in the lower most part of the basin. As a consequence, a considerable area beyond the immediate channel is subject to sheet flow.

6.3 Existing Drainage Facilities. Within the City of Issaquah, the storm drainage system is largely conveyed through the use of open ditches. In the downtown areas of the City, the storm water is conveyed through pipes made of varied materials to outfalls on Issaquah Creek, Tibbetts Creeks, East Fork Issaquah Creek and North Fork Issaquah Creek. Culverts or pipes are typically required in all new developments.

The City's storm drainage system currently provides service to the following drainage subareas: Montreux, Summerhill, Talus, Pickering, I-90, Downtown West, Squak Mountain, Freegard, Overdale, Lakeside, Downtown Central, Downtown South, and Highlands. Figure U-9 in the Utilities Element (Vol. 1) shows the locations of existing major storm drainage facilities within the City.

Problems within the existing system include: channel erosion in hillside drainage ways, capacity problems in several areas (particularly low-lying areas where gradients are low), sediment accumulation during storm events, untreated runoff from commercial areas, and aging stormwater pipe materials. These conditions cause flood damage, decrease surface water quality, reduce the effectiveness of storm drainage facilities, and impact fish habitat. Since the 1996 flood, the City has adopted an aggressive program of improvement projects to mitigate flooding problems and improve flood conveyance along major streams.

6.4 Future Conditions. In 1988, the City formed a Stormwater Management Utility to begin providing the staff and funding commitments for implementing solutions. Periodic rate studies determine appropriate rates to fund stormwater and flooding programs and capital projects. In addition, state and federal legislative initiatives in the late 1980's and 1990's established programs keyed to comprehensive flood and water quality control planning. These include the Flood Control Assistance Account Program, the Puget Sound Water quality Management Plan, and the Federal National Pollution Discharge Elimination System (NPDES) program.

In 1991, the City prepared "A Drainage Management Plan" for the Issaquah Creek Basin. This plan assessed the nature of drainage problems, and established a priority ranking of recommended solutions with associated costs.

In 1996, the Issaquah Creek Basin Plan was prepared by the King County Surface Water Management (SWM) Division in cooperation with the City. This plan, which was approved by the Department of Ecology and adopted by the City Council contains two separate reports: Current/Future Conditions & Source Identification Report and Basin & Nonpoint Action Plan. The Action Plan sets forth numerous strategies for solving surface water drainage problems.

In 2002 the City completed the updated Stormwater Management Plan to guide the City in planning, funding and implementing a comprehensive program for managing stormwater runoff and flooding problems. This plan addresses the rapidly changing stormwater regulatory environment, particularly stormwater management and habitat restoration through State and Federal programs and laws such as the Endangered Species Act (ESA) 4(d) rule and municipal stormwater permitting under the NPDES Phase II Program. These new regulations affect all facets of stormwater management, including stormwater controls for existing development, new and redevelopment projects, inspection and maintenance of existing stormwater systems, best management practices (BMPs) at commercial, industrial, and multifamily developments, improvements to existing stormwater systems, and preservation, acquisition and restoration of stream and riparian habitat.

In January, 2007, the City became a permittee under the NPDES Western Washington Phase 2 Municipal Stormwater Permit, which is administered by the State Department of Ecology. Urban areas that collect stormwater runoff in municipal separate storm sewers and discharge it to surface waters are required to have this permit in accordance with the federal Clean Water Act. The Permit broadly applies to many different City activities that involve maintenance and operations of City facilities, permitting of new development, inspections and enforcement of water quality regulations, and other activities conducted in different City departments. Over the first term of the permit, 2007-2012, the City will be revising codes, policies, and procedures as needed to comply with the Permit.

7. Private Utilities

Private utility services in Issaquah include electricity, natural gas, telecommunications, and cable television.

7.1 Electricity. Puget Sound Energy provides electricity to the Issaquah and surrounding areas. Electricity is supplied to the area by 115,000-volt transmission lines located as follows: Talbot-Lake Tradition #1 & #2, Lakeside-Lake Tradition, Lake Tradition, Berrydale-Lake Tradition, Sammamish-Lake Tradition and the Snoqualmie-Lake Tradition #1 & #2. There is also a 230 kV line that runs north to south from the Sammamish Plateau, through Issaquah Highlands and Lake Tradition. The Bonneville Power Administration (BPA) owns this line, but it is operated and maintained by Puget Sound Energy.

To meet the future electrical needs of East King County and to serve Issaquah and its environs, new substations and transmission lines are planned over the next several years. The new substations and transmission lines are planned to provide the needed electricity and to serve the anticipated population growth in the planning area through the year 2020.

7.2 Natural Gas. Puget Sound Energy (PSE) provides gas service to Issaquah and the surrounding areas via the Northwest Pipeline. Most of the homes and businesses throughout Issaquah, are served by Puget Sound Energy; however East Cougar (south of Montreux), the west side of Squak Mountain, and Grand Ridge lie outside the service area. A number of line extension projects are anticipated in the following locations to improve service delivery in the future: SR 900 and Newport, Northwest Pipeline (new connection and rebuilding of regulators serving the South Plateau), East Cougar, Grand Ridge, I-90, and North Beaver Lake (8" high pressure line), 16" main from the Issaquah Gate Station.

The location, capacity and timing of these improvements depend greatly on opportunities for expansion and on how quickly the City grows. The final route taken will depend on the right-of-way, permitting, environmental impact and the opportunities to install gas mains with new development, highway improvements, or other utilities.

7.3 Telecommunications. Qwest Communications is the primary provider of telephone service and

certain related special services (alarm circuits and data transmittal) to the Issaquah area. Due to changes in regulations by the State Utilities Commission other providers such as Verizon and Multi Media have been able to join in the market.

The existing main feeder routes serving the Issaquah area are:

1. Front Street to Issaquah-Hobart Road
2. Juniper to Newport
3. West Lake Sammamish Road
4. East Lake Sammamish Road SE
5. Issaquah-Fall City Road

7.4 Cable Television. Comcast and Broadstripe (formerly Millennium Digital Media) provide cable television service for Issaquah and the surrounding areas.

8. Solid Waste Utility

Private utility services in Issaquah include electricity, natural gas, telecommunications, and cable television.

8.1 Existing Conditions. The City of Issaquah provides for solid waste collection services to all residents and businesses. This includes collections of garbage, recyclable materials and organics (yard debris and food waste). Commercial recycling services are deregulated and are provided to businesses on a competitive basis through a variety of recycling service providers.

Garbage collected in the City is currently delivered to the King County Cedar Hills regional landfill for final disposal primarily through a transfer station located in Factoria. The capacity of the Cedar Hills site, under a preferred option considering three alternative uses of the undeveloped areas, estimates a capacity of 19,280 cubic yards with an estimated closure date of 2013. Construction, demolition and landclearing (CDL) debris is taken to regional CDL transfer stations and later delivered via rail to privately owned and operated facilities in either eastern Washington or north-eastern Oregon. Recyclable materials are delivered to a variety of recovery and processing facilities in the region.

8.2 Future Conditions and Needs. Recycling and yard debris programs have achieved a fairly high diversion rate in the residential sector in a relatively short period of time. However, as of 2008, the City is diverting only about 31% of its total municipal solid waste stream – considerable additional effort will be necessary in order to achieve goals. Strategies for increasing waste reduction and recycling activities are included in the King County Solid Waste Management Plan, adopted by the City through an interlocal agreement. These strategies include: waste prevention, packaging waste reduction, construction, demolition and landclearing debris recycling, and business recycling.

King County has been coordinating a regional planning effort on solid waste issues in order to ensure viable, cost-effective and environmentally sound long-term options for hauling and final disposal. Disposal options have been explored, including waste export, compost facilities, waste prevention, recycling, product stewardship, waste to energy and new waste transport technologies among other strategies.

8.3 Annexations. The City's solid waste collection agreement applies to all areas within the City limits, subject to the exception that newly annexed areas are serviced by the previously existing garbage permit (g-permit) holders.

9. Public Services

Private utility services in Issaquah include electricity, natural gas, telecommunications, and cable television.

9.1 Fire. Fire protection services are provided by Eastside Fire and Rescue (EFR), which was created in 1998 when Issaquah Fire Department consolidated with Fire District 10. Eastside Fire and Rescue provides a wide range of services, from fire protection and suppression, to emergency medical services and fire code planning (for more information regarding fire services, see the Utilities and Public Services Background Report, Volume 2).

The City is currently served by three fire stations; permanent facilities located in Olde Town and in the Issaquah Highlands, and a temporary facility located on Mall Street west of State Route 900. A new permanent fire station adjacent to the Transit Center is planned on Maple Street to replace the temporary facility. Eastside Fire and Rescue Headquarters is located on Newport Way. Additional fire stations, if any, needed to serve areas annexed into the City would be determined by studies prior to the proposed annexation (see the Capital Facilities Element for additional information).

9.2 Police. Police protection services are provided by the City of Issaquah Police Department. The Department handles many types of requests for service and prides itself on being community oriented and in partnership with the citizens in establishing needs. A more complete list of police services can be found in the Utilities and Public Services Background Report (Volume 2) while the Capital Facilities Element contains information regarding current and future police facility needs.

10. Essential Public Facilities

Private utility services in Issaquah include electricity, natural gas, telecommunications, and cable television.

The Growth Management Act (RCW 36.70A) requires that jurisdictions establish a process for identifying and siting Essential Public Facilities. Essential Public Facilities are those facilities, as defined by Washington State (RCW 36.70A.200), that are typically difficult to site, such as, state or regional transportation facilities, correctional facilities, state educational facilities, solid waste handling facilities, group homes, and secure community transition facilities.

10.1 Transportation Facilities. State and regional transportation facilities are addressed primarily in the Transportation Element. New transportation facilities, if required, will be sited through the process identified in Title 18 of the Issaquah Municipal Code.

10.2 Secure Community Transition Facilities. Secure Community Transition Facilities (SCTF), as defined in RCW 71.09.020, are less restrictive community based facilities for civilly committed sexual offenders on court ordered conditional release from the Department of Social and Health Services (DSHS) Special Commitment Center. SCTFs are intended to serve as a “next step” in treatment for sex offenders when the court decides that the sex offender has completed the treatment regimen at the Special Commitment Center.

The Department of Social and Health Services has identified how many SCTFs are needed in each county based on a “fair share” concept. The number of facilities that each county that were civilly committed must accommodate is based on a number of sex offenders from each county at the Special Commitment Center pending civil commitment as of April 1, 2001. Although the Growth Management Act requires

that the all jurisdictions provide a process for siting and accommodating SCTFs, each jurisdiction is allowed some discretion in locating the facilities within the jurisdictional limits.

10.3 Other Essential Public Facilities. Siting and design review of other Essential Public Facilities, such as state educational facilities, solid waste handling facilities, and group homes, is established in Title 18 of the Issaquah Municipal Code.

11. Utility and Public Services Goals, Objectives and Policies

GOAL 1. Facilitate the development of all utilities and public services at the appropriate levels of service to accommodate Issaquah's planned growth.

GOAL 2. Facilitate the provision of reliable utility and public services that balance public concerns over the potential safety and health impacts of utility and public service infrastructure, consumers' interest in paying a fair and reasonable price for the utility and public service provider's product or service, the natural environment and the potential impacts of utility or public service infrastructures, and the community's desire that utility and public service projects be aesthetically compatible with surrounding land uses.

GOAL 3. Process permits and approvals for utility facilities in a fair and timely manner and in accord with development regulations that encourage predictability.

Service Provision

OBJECTIVE U-1: Ensure that utility services are available to support development that is consistent with the Land Use Plan.

Service Provision Policies:

U-1.1 Conservation: Implement conservation efforts to address the need for adequate supply of electrical energy and water resources, to protect natural resources and achieve improved air quality. Efforts should include, but are not limited to, public education, water reuse and reclamation, low impact development techniques, use of native and/or drought resistant landscaping, low flow shower heads, conservation credits, and energy efficiency in new and existing buildings.

U-1.2 Land Use Code. Amend the Land Use Code and related regulations to:

- 1.2.1 Utility Provision:** Ensure utility provision maximizes public safety, minimizes adverse environmental impacts, and is compatible with surrounding land uses.
- 1.2.2 Permit Applications:** Process permit applications for utility facilities in a timely and consistent manner, in accordance with development regulations that ensure predictability, provide adequate capacity for future planned growth consistent with the Comprehensive Plan, and through the development review process which defines proportionate fair share mitigation for any related increase in service needs.
- 1.2.3 Benefit Priority Matrix:** Add public services and private utilities to the Projects for Public Benefit Priority Matrix.¹
- 1.2.4 Design and Construction Standards:** Include design and construction standards which are environmentally sensitive, safe, cost effective and consistent with the serving utilities' public service obligations.
- 1.2.5 Public Facilities:** Manage public facilities systems in order to provide reliable, quality service and require that the location, type and size of all public facilities be determined and/or

¹See Policy EV-5.2 in the Economic Vitality Element, Volume 1.

approved by the City. The extension and sizing of public facilities shall be based on and be consistent with the land use plan for the specific area.

1.2.6 Future Public Facilities: Designate the general location and capacity of future public facilities and private utilities.

1.2.7 Private Utilities: Recognize that planning for private utilities is the primary responsibility of the utility providers.

1.2.8 Joint Use of Public Facilities and Utility Corridors: Encourage the joint use of public facilities and joint use of utility corridors, provided that such use is consistent with limitations as may be prescribed by applicable law and prudent utility practice.

U-1.3 Potential Annexations Areas. Require annexations before extending City public services, with the exception that extensions outside the City may be made in response to a health emergency or threat to the City aquifer.

Water

OBJECTIVE U-2: Provide for the City's long term water needs by: protecting the aquifer and recharge areas, providing reliable levels of service, including water for domestic use and fire protection, and ensuring future water supplies by pursuing additional sources, as well as conservation and reuse measures.

Water Policies:

U-2.1 Retail Service Area: Under the 2003 Municipal Water Law (RCW 43.20.260), the City will plan for and provide direct retail water service to all properties within the City's Retail Service Area as defined in Figure 2.02 of the adopted Water System Plan Update (WSP).

U-2.2 Service Extension: Provide Water System service extensions if:

2.2.1 The development is within the City's Retail Service Area;

2.2.2 The development is consistent with all adopted codes and policies;

2.2.3 A parcel meets special circumstances as defined with the Water System Plan Update and codes;

2.2.4 The service extension shall have no cost to the City except as it chooses to participate to benefit the overall system and if the City's costs are reimbursed.

U-2.3 Adequate Water System: Require the provision of adequate water system facilities by the applicable public or existing privately owned community provider as a condition for approval for all development applications.

U-2.4 Satellite Systems: Provide direct service to water system customers within the City WSAs. If no other options are deemed feasible by the City, the City may enter into a satellite system written agreement with the satellite water system owner.

U-2.5 Water Certificate Availability: Certificates of Water Availability shall only be issued if the Public Works Director determines that there is a potential significant shortage of available water supply to serve customers within the Retail Service Area.

U-2.6 Service Ownership: Require ownership by the City of the service line from the main to the meter, the meter, and the meter box. Require the property owner to own and maintain the service line and other facilities such as pressure reducing valves, pumps, or cross-connection devices beyond the meter. Where on-site fire hydrants are required, the City shall own the mains and hydrants. Easements shall be acquired for the mains and hydrants. Fire lines on private property are the responsibility of the property owner beginning at the first valve off of the City's water main.

U-2.7 Service Pressure and Flow: Provide domestic water to all utility customers in sufficient quantity to meet maximum day demand conditions at a pressure that meets or exceeds all minimum applicable regulations, except during emergency conditions. For new developments, a higher pressure requirement is imposed as detailed in WSP Policy 7.3.2, Section Pressure and Velocity in Water System Planning and Design.

U-2.8 Water Quality Responsibility: Provide water that meets all state and federal water quality standards to all water system customers.

U-2.9 Service Reliability: Invest the resources necessary to construct, maintain and rehabilitate water system infrastructure and equipment to ensure that customers are provided consistent, reliable service in accordance with WAC 246-290-420. In addition, all new developments shall meet the requirements set forth in WSP Policy 7.3, Water System Planning and Design.

U-2.10 Fire Fighting: Provide, maintain, and improve, as resources become available, the infrastructure system necessary to supply water for fire fighting purposes to all utility customers. The water supply shall meet or exceed all minimum applicable standards and regulations for fire flow, storage, and peak use periods, except under emergency conditions created by major disasters, such as earthquake or flood. The Fire Marshal is authorized to require fire protection measures in excess of these policies based on fire hazard potential.

U-2.11 Fire Flow Requirements: Require that the building-specific fire flow and the municipal water system level of service both be provided as a condition of development and as a condition of any extension of the City water system.

U-2.12 Fire Flow Improvements: The minimum fire flow requirements for existing structures and uses or occupancies are those that were required at the time of permit issuance, as determined by the Fire Marshal and the City's water utility. For existing water system infrastructure upgrades, the City may allow fire pumps to supplement additional fire flow volume provided the additional pumping does not degrade other pressure zones.

U-2.13 Fire Flow Improvement Program: As resources become available, the City shall make water system improvements to meet the current fire flow criteria. When prioritizing and scheduling system improvements, the City Capital Facilities planning procedures should consider the severity of deficiencies. The City should seek opportunities to make improvements in conjunction with other City projects to achieve economic efficiency. The City will only correct existing velocity deficiencies when other deficiencies exist.

U-2.14 Emergency Management Plan: Regularly update the Emergency Management Plan as part of the City's operations program. The Plan will ensure that adequate emergency provisions are in place to provide for and organize responses to the most likely kinds of emergencies that may endanger public health and safety or operations of the water system, and will focus on problems created by major disasters, such as earthquake or flood.

U-2.15 Water Supply Shortage Response: Take reasonable actions to ensure that the essential needs of its customers are met and that available supplies are equitably distributed to all affected customers in the event of a water-supply shortage caused by a drought or supply interruption.

U-2.16 Regional Participation: Coordinate and cooperate with other adjacent and regional water purveyors and state regulators to identify, protect and maintain a reliable and sustainable water supply.

U-2.17 Assumptions of Other Jurisdictions: Issaquah will work cooperatively with neighboring municipalities and special purpose districts during the assumption of special purpose districts within the City limits or potential annexation areas.

U-2.18 Emergency Interties: Support emergency interties with adjacent water systems where there is a benefit to the water systems.

U-2.19 Water Supply Interties: Consider water supply interties on a case-by-case basis.

U-2.20 Wheeling Water: Allow wheeling water (transporting water through the City water system for the benefit of another municipality) if the proposal supports regional water supply needs, is consistent with adopted City policies, and is at no cost to the City, except as it chooses to participate to benefit the overall system.

U-2.21 Mutual Aid Agreement: Participate in a water mutual aid agreement.

U-2.22 Water Supply Source: Pursue a combination of strategies to extend existing water supplies and obtain additional new sources of water supply, which balances the environmental and economic cost, including but not limited to:

- 2.22.1** Where feasible and prudent, pursue agreements with adjacent or regional purveyors for additional water supplies, including the acquisition of small water systems or individual wells.
- 2.22.2** Actively support methods of extending existing water supplies through programs that promote conservation, waste reduction, storage, wastewater reuse, low impact development techniques, and "demand management" strategies.
- 2.22.3** Redrill the Gun Club Wells, in order to better utilize existing water rights.

U-2.23 Water Supply Separation: Issaquah may blend two water supplies for purposes of environmental protection and/or reducing financial burdens on Water Utility to meet development growth. Approval by the City Council of the blending of water supplies for these purposes shall be considered, if beneficial, after a public hearing. The City shall blend water supplies in emergency situations if needed to stay in compliance with State law or when supply is needed.

U-2.24 Water System Planning and Design: Plan and design water system facilities that can deliver continuous, safe water supply to meet customer demands, consistent with all applicable federal, state and local regulations. If the water system facilities are required to be installed or up-graded as a result of a developer's impact, this shall be accomplished at the developer's expense.

U-2.25 Environmental Protection: Develop, implement, monitor and adapt: programs, procedures and best practices to improve and protect water quality, habitat, the aquifer and other environmental values in areas where the City or private contractor must construct, operate, maintain, or replace water system infrastructure.

U-2.26 Wellhead Protection Implementation: Implement the Wellhead Protection Program to protect the City's ground water supplies from degradation based on the Wellhead Protection Plan (Golder Associates, November 1993) and coordinate implementation with the Sammamish Plateau Water and Sewer District. Promote and participate in aquifer recharge storm drainage projects within the aquifer recharge area and wellhead capture zones. These methods shall include but not be limited to:

- 2.26.1** regulation of land use;
- 2.26.2** public outreach and education;
- 2.26.3** construction of capital facilities in appropriate areas, which will aid in protection the well-heads.

U-2.27 Facility Abandonment: Facility abandonment will be done in a safe and environmentally sound manner, consistent with all applicable federal, state and local regulations at the time of abandonment. Abandoning water system infrastructure shall not leave remaining unutilized pressurized sections since this may become a source of leaks, breaks, and/or contamination.

U-2.28 Water Conservation: Continue implementation and enhancement of the current conservation program, begun in 1995, by conserving 15% per Equivalent Residential Unit (ERU) by 2015. Water conservation measures shall be consistent with, and strive to exceed, all local, state, and federal laws and regulations.

U-2.29 Water Right Usage: Limit the amount of wells production such that it does not exceed the limits of water rights. The City shall monitor water consumption to ensure that there is sufficient warning of water right constraints

U-2.30 Sustainable Yield: Identify, protect and maintain the sustainable yield of the aquifer in order to avoid permanently affecting water tables in a manner which would damage related ecosystems.

U-2.31 Aquifer Recharge: Minimize the risk to, and protect the aquifer recharge quantity and quality through the regulation of types of land use allowed, encouraging low impact development, and mitigation required on the uses within the identified recharge areas and wellhead capture zones.

U-2.32 Sustainable Development and Best Available Conservation Technology: Design, develop, construct, operate, and maintain new development in such a manner as to provide for efficient and non-wasteful use of water that incorporates the best available water conservation technology prevailing at the time of development.

U-2.33 Reclaimed Water Use: Issaquah will support the regional supplier's study of reclaimed water use opportunities and will work with the Cascade Water Alliance and/or the regional supplier and others to identify potential reclaimed water demand.

U-2.34 Financial Management of the Water Utility. Manage the Water Utility funds and resources in a manner in compliance with applicable laws, regulations, and city financial policies. The Water Utility shall:

- 2.34.1** Maintain the Water Utility Fund as a self-supporting enterprise fund. General Fund revenues may also be used to fund water utility programs if specifically budgeted;
- 2.34.2** Maintain funding for the Capital Improvement Program at a level necessary to ensure system integrity;
- 2.34.3** Adopt and update a Capital Facilities Plan as required by the Washington State Growth Management Act;
- 2.34.4** Maintain fees and charges to recover City costs related to development. General Facilities Charges shall be charged to all new development properties to reimburse the utility for historical and future required asset investments that provide overall benefits to the service area;
- 2.34.5** Evaluate Water Rate levels annually as part of the water utility budgeting process;
- 2.34.7** Support water conservation and wise use of water resources. The water rate structure shall fairly allocate costs among customers;
- 2.34.8** Operate the water system in compliance with applicable laws and regulations in a manner that minimizes all operational costs to the City;
- 2.34.9** Provide rate assistance programs for senior citizens and low-income customers; and
- 2.34.10** Maintain a Water Utility cash balance to serve as a contingency reserve fund.

Sewer

OBJECTIVE U-3: Provide and maintain a sanitary sewer collection system that protects public health and safety and water quality through implementation of the policies within the Sewer System Plan Update (10/92 and subsequent updates).

Sewer Policies:

U-3.1 Sewer Connections for New Development: Require sewer connections for all new developments, provided that the connection does not cause significant adverse environmental impact. This requirement excludes single family residential on existing platted lots where connection to a public sewer within 200 feet is not available.

U-3.2 Non-Failing Septic Systems: Allow existing single family homes with septic systems to continue to use them, provided that the systems are functioning properly, as documented by the Seattle-King County Health Department. All septic systems in the City shall be monitored according to Seattle-King County Department of Health regulations.

U-3.3 Failing Septic Systems: Require that property owners connect to the sewer system if a septic system is not functioning properly, as documented by the Seattle-King County Health Department. If the Seattle-King County Health Department determines that such connection is not feasible, Seattle-King County Department of Health inspectors shall identify equally mitigating corrective actions, which shall be required.

U-3.4 Side Sewers: Side sewers shall be owned and maintained by the property owner up to and including the connection to the City-owned sewer main.

U-3.5 Service Improvements, Reliability, and Investment: Identify, prioritize, and provide sufficient funding for capital improvement projects and programs that meet one or more of the following criteria:

- 3.5.1** Improve capacity for system growth,
- 3.5.2** Repair failing or deteriorated sewer lines,
- 3.5.3** Extend sewer lines into presently unsewered areas,
- 3.5.4** Maintain appropriate levels of service,
- 3.5.5** Improve system operations, or
- 3.5.6** Minimize health hazards from contamination of ground or surface waters.

U-3.6 Other Sewer Providers: Work with other sewer providers to ensure adequate provision and maintenance of sewer facilities for properties not served by the City.

U-3.7 Emergency Preparedness: Prepare an emergency plan, and update at appropriate intervals, for response to emergencies that threaten public health or the sewer system.

U-3.8 Regional Coordination: Coordinate with Metro and adjacent jurisdictions in the planning of the City's sewer system, any interties with regional sewer systems, and future demands on wastewater treatment and conveyance.

U-3.9 Enforcement: Termination of domestic water service to the subject property shall occur if the property owner fails to meet the sewer connection policy or pay utility charges.

Storm Water

OBJECTIVE U-4: Manage the quantity and quality of storm water runoff to protect public health and safety, surface and groundwater quality, and natural drainage systems through implementation of the Issaquah Creek Basin and Non-Point Action Plan (1996), Stormwater Management Plan policies (2003 and subsequent updates), and the National Pollution Discharge Elimination System (NPDES) Western Washington Phase II Municipal Stormwater Permit (2007).

Storm Water Policies:

U-4.1 Design and permitting:

4.1.1 New development or redevelopment shall:

- 4.1.1.1 Use the King County Surface Water Design Manual, as amended, as design standards for stormwater and water quality facilities; and
- 4.1.1.2 Mitigate, through the development review process, any related increase in City storm drainage service needs.

4.1.2 Storm drainage facilities shall be designed to:

- 4.1.2.1 Minimize potential erosion and sedimentation;
- 4.1.2.2 Encourage retention of natural vegetation;
- 4.1.2.3 Infiltrate stormwater wherever feasible using low impact development techniques;
- 4.1.2.4 Maintain stream base flows;
- 4.1.2.5 Preserve natural drainage systems such as rivers, streams, lakes, and wetlands; and
- 4.1.2.5 Provide adequate capacity for future planned growth consistent with the Comprehensive Plan.

U-4.2 Flood Protection: Coordinate with property owners adjacent to the Issaquah and Tibbetts Creeks to increase flood protection, to the greatest extent feasible through both public and private projects, at the following levels of protection:

- 4.2.1 Issaquah Creek. The level of protection within the immediate stream corridor is the February 1996 flood event (approximately the 20-year event); and
- 4.2.2 Tibbetts Creek. The level of protection, as provided by the Tibbetts Creek Greenway Project, is the 100-year event.

U-4.3 Flood Hazard Management

4.3.1 Creek Improvements: Reduce flood hazards by using the following design approaches:

- 4.3.1.1 Removal of homes from the floodplain or acquisition of undeveloped parcels;
- 4.3.1.2 Removal of fill or bank stabilization structures and, if necessary, replacement with bio-stabilization techniques for protection of existing structures;
- 4.3.1.3 Removal of floodplain constrictions caused by bridges as bridges are replaced;
- 4.3.1.4 Installation of localized riprap as necessary to protect bridge foundations and bioengineering for bank stabilization;
- 4.3.1.5 Excavation of widened or overflow channels on City-owned property or on easements granted by private property owners;
- 4.3.1.6 Revegetation of floodplain and riparian corridor; and
- 4.3.1.7 Monitor and maintain existing stormwater infrastructure by replacing or relining deteriorated sections of stormwater mains.

4.3.2 Citywide Programs. Promote and provide continued support to the following flood hazard management programs:

- 4.3.2.1 Flood warning and public information system, flood response standard operating procedures, and sand bag delivery;
- 4.3.2.2 Public education programs to warn citizens of risks and dangers of flooding, including the flood preparedness workshops, and detrimental environmental effects;
- 4.3.2.3 Flood insurance program, including preparation of revised FEMA maps of Issaquah Creek and Tibbetts Creek 100-year floodplains and participation in the Community

- Rating System;
- 4.3.2.4 Technical assistance with floodproofing and elevating of structures within the floodplain; and
- 4.3.2.5 Private- and interagency-sponsored projects such as the Tibbetts Creek Greenway Project, which provide measures to reduce flooding.

U-4.4 Stormwater Management And Water Quality Protection

- 4.4.1 Implement and ensure the compliance of stormwater programs with NPDES (National Pollution Discharge Elimination System) Western Washington Phase II Municipal Stormwater Permit by incorporating the following elements:
 - 4.4.1.1 Public education and outreach;
 - 4.4.1.2 Public involvement/participation;
 - 4.4.1.3 Illicit discharge detection and elimination;
 - 4.4.1.4 Controlling runoff from new development, redevelopment, and construction sites;
 - 4.4.1.5 Post-construction stormwater management in new development and redevelopment;
 - 4.4.1.6 Pollution prevention/good housekeeping for municipal operations; and
 - 4.4.1.7 Total Maximum Daily Load (TMDL) requirements.
- 4.4.2 Promote, support and participate in programs that improve the quantity and quality of stormwater runoff, stream flows, and groundwater, including:
 - 4.4.2.1 Source control best management practices (BMPs), as defined in the King County Surface water Design Manual (2009, or as amended) which control pollution at its source through physical improvements and good housekeeping practices, at existing commercial and industrial properties;
 - 4.4.2.2 Retrofitting of storm drain systems to improve water quality and aquifer recharge (see Figure 10, Storm Drain System Map, Volume 1);
 - 4.4.2.3 Inclusion of water quality mitigation in applicable capital projects;
 - 4.4.2.4 Control of non-point source pollution sources, such as fecal coliform contamination, to streams, through capital improvement projects, monitoring, enforcement, and education;
 - 4.4.2.5 Enforcement against illegal discharge of contaminants and illicit connections to surface water, stormwater, groundwater, and stream corridors;
 - 4.4.2.6 Continuation of the Aquatic Resource Monitoring Plan;
 - 4.4.2.7 Spill response, including the Spill and Water Quality Response Standard Operating Procedure for responding to complaints or emergencies such as spills, fish kills, illegal connections, and other water quality related problems on both public and private property;
 - 4.4.2.8 Development of a Spill Response Plan that includes interagency coordination and equipping of City crews with necessary equipment to allow quick response and action to spill events on both public and private property;
 - 4.4.2.9 Inspection and maintenance of private facilities at appropriate intervals;
 - 4.4.2.10 Maintenance of public drainage systems to maximize their effectiveness in stormwater conveyance and pollutant removal; and
 - 4.4.2.11 Inventory and surveying the existing storm drainage system to provide accurate and complete information for operations and maintenance, water quality investigations and response, and capital improvements.

U-4.5 Funding Of Capital Improvement Projects and Programs

- 4.5.1 Identify, prioritize, and provide sufficient funding, for capital improvement projects and programs based on the following criteria:
 - 4.5.1.1 Improve flood and stormwater drainage conveyance;
 - 4.5.1.2 Repair failing or deteriorated public stormwater systems;
 - 4.5.1.3 Routine maintenance of public stormwater facilities;
 - 4.5.1.4 Improve stormwater runoff water quality and aquifer recharge;
 - 4.5.1.5 Acquire, preserve and/or restore stream and riparian habitat;

- 4.5.1.6 Acquire or mitigate repetitive loss and flood prone properties;
- 4.5.1.7 Monitor physical, chemical and biological conditions of streams;
- 4.5.1.8 Implement public involvement and education programs for floodplain, water quality, stormwater and habitat activities;
- 4.5.1.9 Maintain flood warning system;
- 4.5.1.10 Maintain and upgrade the stormwater system inventory; and
- 4.5.1.11 Manage the stormwater utility.

U-4.6 Land Use and Critical Area Regulations

- 4.6.1 Regulate the location and characteristics of new development to reduce impacts on “Critical Areas” include the following areas and ecosystems: (a) Wetlands; (b) areas with a critical re-charging effect on aquifers used for potable water; (c) fish and wildlife habitat conservation areas; (d) frequently flooded areas; and (e) geologically hazardous areas. using methods such as:
 - 4.6.1.1 Encourage development proposals that incorporate stormwater design principles of low impact development;
 - 4.6.1.2 Support development of land use regulations that promote open space retention and reduce impervious surface areas to lessen stormwater impacts and improve aquifer recharge;
 - 4.6.1.3 Enforce aquifer recharge regulations to ensure that development proposals do not reduce recharge to the Lower Issaquah Valley aquifer; and
 - 4.6.1.4 Enforce existing shoreline management and critical areas regulations that provide protection to wetlands and streams and their buffers.

U-4.7 Public Education and Outreach. Provide continued support to public education and outreach programs, including:

- 4.7.1 Issaquah Stream Team;
- 4.7.2 Issaquah Businesses for Clean Water (or equivalent City program);
- 4.7.3 Riparian Restoration Stewardship;
- 4.7.4 Sammamish Watershed Stewardship; and
- 4.7.5 Flood Preparedness Workshop;
- 4.7.6 Other public information and workshop efforts for flood hazard management, stormwater quality, and stream habitat restoration.

U-4.8 Regional Coordination and ESA. Coordinate local storm drainage and flooding programs as well as coordinate with regional jurisdictions on regional floodplain, stormwater and habitat management programs such as the Puget Sound Water Quality Management Plan (Puget Sound Plan) and response to the Endangered Species Act (ESA) 4(d) Rule. Modify existing or implement new City programs, to the greatest extent feasible, to incorporate regionally approved recommendations.

U-4.9 Fish and Wildlife Habitat

- 4.9.1 Promote and support private- and interagency-sponsored projects such as the Tibbetts Creek Greenway Project, which provide measures that improve the stream environment.
- 4.9.2 Adopt “fish friendly” design principals in all capital improvement projects:
 - 4.9.2.1 Include protective measures and beneficial features for salmonid habitat in all projects;
 - 4.9.2.2 When prioritizing projects include within the process a means to rank “fish friendly” projects; and
 - 4.9.2.3 Restore disturbed fish and wildlife habitat through capital improvement projects and ongoing programs.

Police and Fire Protection

OBJECTIVE U-5: Provide for the City's current and future police and fire protection and emergency medical service needs by evaluating the effect that growth and land use decisions will have on these services and ensuring that adequate provisions are made to accommodate the demands of new development.

Police and Fire Protection Policies:

U-5.1 Police Department Planning. Coordinate land use planning, development review and police protection planning to ensure that:

- 5.1.1** Adequate police protection services and facilities can be provided for the protection of life, property and maintenance of public safety and peace.
- 5.1.2** Project design minimizes the potential for criminal activity.

U-5.2 Police Department Siting. Consider the location of police facilities in relation to the following factors:

- 5.2.1** Police stations should be located so that they are accessible to the public and also facilitate efficient movement of police personnel and vehicles.
- 5.2.2** Maximize the ability of the police to protect life and property, and maintain public peace and safety through the design of future police facilities.
- 5.2.3** Provide for police office space (i.e. "store front") facilities in areas of new development or annexed areas, where warranted, in order to provide for public contact with police in local neighborhoods.
- 5.2.4** Plan and coordinate construction and location of police facilities with local and regional plans.
- 5.2.5** Encourage the siting of police facilities in close proximity to court facilities and services.

U-5.3 Fire Department Planning. Coordinate land use planning, development review and fire protection planning to ensure that:

- 5.3.1** Adequate fire protection and emergency medical services can be provided,
- 5.3.2** Project design minimizes the potential for fire and life hazard; and
- 5.3.3** Eastside Fire and Rescue: Support the Eastside Fire and Rescue's provision of fire protection, emergency medical services and fire code planning, engineering and enforcement and other associated services.

U-5.4 Fire Department Siting. Consider the location of fire protection facilities in relation to the following factors:

- 5.4.1** Locate fire stations central to their service area and in close proximity to arterials to achieve minimum response times.
- 5.4.2** Acquire land for fire facilities in advance in areas where greatest development is anticipated.
- 5.4.3** Plan and coordinate for construction and location of fire facilities with local and regional plans.
- 5.4.4** Consult nationally accepted and applied guidelines for the location of fire facilities during facility planning.
- 5.4.5** Require new growth or redevelopment within existing fire station response districts pay a proportionate share as determined through the City's development review process of the costs for facilities or resources required by the new growth or redevelopment.

Private Utilities

OBJECTIVE U-6: Coordinate City land use and utility facility planning to ensure consistency, as well as enable utility service providers to meet public service obligations.

Private Utilities Policies:

U-6.1 Reliability. Ensure reliable, safe and compatible utilities by:

6.1.1 General (all utilities):

- 6.1.1.1** Encourage the utilities to solicit community input on the siting of proposed facilities which may have a significant impact on the surrounding community prior to seeking City approval for facilities. Substations, reservoirs, and necessary similar above ground utility structures should be appropriately sited, designed and buffered to minimize impacts on nearby uses.
- 6.1.1.2** Require the reasonable screening and/or architecturally compatible integration of all new above-ground facilities, as long as facility safety and emergency access are not compromised.
- 6.1.1.3** Require notification to the City prior to a utility's maintenance or removal of vegetation in City right-of-way except in cases of emergency.
- 6.1.1.4** Encourage directional pruning of trees and phased replacement of improperly located vegetation planted in the right-of-way. Perform pruning and trimming of trees in an environmentally sensitive and aesthetically acceptable manner and according to professional arboricultural specifications and standards.
- 6.1.1.5** Require that all maintenance, repair and installation activities by utilities are in compliance with the critical areas regulations, except in emergency situations.
- 6.1.1.6** Consider the coordination, including scheduling, and location of new utility facilities and transportation facilities, where feasible, such as street networks/principal arterial corridors.

6.1.2 Electrical Utilities:

- 6.1.2.1** Require in the planning, siting and construction of all electrical facilities, systems, lines and substations that the electrical utility strike a reasonable balance between potential health effects and the cost and impact of mitigating those effects by taking reasonable cost-effective steps.
- 6.1.2.2** Require the undergrounding of all new electrical distribution lines where it is reasonably feasible and in accordance with State rules, regulations and tariffs.

6.1.3 Telephone Utilities:

- 6.1.3.1** Require all telephone switching facilities to be fully enclosed in structures which are aesthetically compatible with the area in which they are placed and are landscaped accordingly.

6.1.4 Cellular Utilities:

- 6.1.4.1** Encourage the consolidation of facilities such as towers, poles, antenna, substation sites, trenches, and easements, and rights-of-way where reasonably feasible and in accordance with prudent utility practice.
- 6.1.4.2** Require the placement of cellular communication facilities in a manner that minimizes the adverse impacts on adjacent land uses, including undergrounding where feasible.
- 6.1.4.3** Minimize visual intrusion of cellular facility towers and monopoles in all areas. Provide relief to setback requirements without introducing adverse impacts through administrative adjustment of standards.

U-6.2 Utility Facility Decisions: Decisions regarding utility facilities shall be made consistent with the City's land use goals, regional demand and resources, and shall reinforce an interconnecting regional distribution network by:

- 6.2.1** Encouraging cooperation with other jurisdictions in the planning and implementation of multi-jurisdictional utility facility additions and improvements.
- 6.2.2** Encouraging communication among the City, the Washington Utilities & Trade Commission (WUTC), and utilities regulated by the WUTC about concerns with concurrency of service with demand, the distribution of costs for existing and proposed utility facilities; especially concerns about requirements for the undergrounding of transmission, distribution, and communication lines exceeding statewide norms.
- 6.2.3** Deferring the implementation sequence of utility plan components to the service provider.
- 6.2.4** Requiring effective and timely coordination of all public and private utility trenching activities.
- 6.2.5** Encouraging system practices intended to minimize the number and duration of interruptions to customer service.

U-6.3 Alternative Technologies: Facilitate the conversion to cost effective and environmentally sensitive alternative technologies and energy sources by:

- 6.3.1** Facilitating/encouraging conservation of resources by conserving the use of electric energy and fuel in facilities, and adopting practical and cost effective energy building codes.
- 6.3.2** Encouraging the public to conserve electrical energy through public education.

U-6.4 Finance: Require site developers to finance all on-site and directly related off-site public facility improvements needed to serve the development and mitigate cumulative impacts as determined through the City's development review process.

U-6.5 Coordination: Coordinate with other utilities such as gas, electricity, telephone, and cable to avoid conflicts and reduce costs.

U-6.6 Environmentally Sensitive Areas: Avoid facilities such as utility lines and roadways within areas of severe environmental sensitivity. If needed to serve more distant development sites, such facilities should be sized and sited to minimize impacts. Within areas of moderate environmental sensitivity, facilities should be sized and sited in accordance with the existing site conditions.

U-6.7 Major Utility Installations: Review proposals for major utility installations such as transmission lines and substations to assure that aesthetic values and land use conflicts are minimized and mitigated.

Solid Waste Management

OBJECTIVE U-7: Manage the collection and disposal of solid waste, inclusive of garbage, recyclable materials and yard debris, in order to protect public health and safety, provide efficient and reliable levels of service and preserve environmental quality through pollution prevention and resource conservation. Encourage solid waste reduction, reuse and recycling throughout the City and with new construction and development.

Solid Waste Management Policies:

U-7.1 Procurement. Encourage the economics of recycling by a City procurement policy which favors proven products with high quality recycled materials content.

U-7.2 Solid Waste. Provide a cost-effective, safe and responsive solid waste collection system for all areas of the City.

U-7.3 Regional Coordination. Encourage regional coordination on solid waste issues such as waste export, compost facilities and new waste transport technologies in order to ensure viable, cost-effective and environmentally sound long-term options.

U-7.4 Environmental Health. Minimize or eliminate contamination of land, water or air by solid waste. Require the proper handling and disposal of solid waste, including hazardous waste, to protect the public health and safety.

U-7.5 New Development. Coordinate with and encourage developers and contractors to implement comprehensive waste prevention and recycling programs through all phases of development. Minimize the generation of garbage associated with new development and construction and resultant increased residential uses through construction waste management plan submittals, waste management tracking and appropriate recycling facilities and signage in commercial, residential and multifamily facilities.

U-7.6 Waste Reduction and Recycling Programs. Develop targeted waste reduction and recycling programs to reduce solid waste stream disposal including: waste prevention, packaging waste reduction, construction, demolition and landclearing debris recycling, single and multifamily residential and business recycling in order to achieve City goals.

Information Technology

OBJECTIVE U-8: Support programs to upgrade information technology skills, infrastructure and access throughout the community.

Information Technology Policy:

U-8.1 Encourage the expansion/capacity for state-of-the-art information technology/ telecommunications services throughout the City and PAAs.

Essential Public Facilities

OBJECTIVE U-9: Provide a process for the identification, siting, and design of Essential Public Facilities that provides for cooperation with adjacent jurisdictions, and public involvement, and is consistent with RCW 36.70A.200.

Essential Public Facilities Policy:

U-9.1 Siting Essential Public Facilities: Essential public facilities shall be sited and designed to ensure compatibility with the surrounding neighborhood. Title 18 of the Issaquah Municipal Code establishes site and design features that will be addressed, which include: environmental protection, landscaping requirements, building and site design compatibility with neighboring uses, and screening from the street as appropriate. The siting of Secure Community Transitional Facilities (SCTF) shall follow the criteria established by the City providing that the City's criteria shall not be more restrictive than the criteria provided by the State (RCW 71.02.285 and RCW 71.09.290).